

Title (en)

METHODS AND APPARATUSES INCLUDING COMMAND DELAY ADJUSTMENT CIRCUIT

Title (de)

VERFAHREN UND VORRICHTUNGEN MIT BEFEHLVERZÖGERUNGSVERSTELLSCHALTUNG

Title (fr)

PROCÉDÉS ET APPAREILS COMPRENANT UN CIRCUIT D'AJUSTEMENT DE RETARD D'INSTRUCTION

Publication

EP 3449377 A4 20191218 (EN)

Application

EP 17790055 A 20170322

Priority

- US 201615139102 A 20160426
- US 2017023594 W 20170322

Abstract (en)

[origin: US2017309323A1] Apparatuses for controlling latencies on input signal paths in semiconductor devices are disclosed. An example apparatus includes: a clock input buffer that provides a reference clock signal and a system clock signal based on an external clock signal; a command decoder that latches command signals with the system clock signal and further provides a signal based on the command signals; and a command delay adjustment circuit including: a clock synchronizing circuit that receives the signal, latches the signal with the system clock signal and provides a clock-synchronized read signal responsive to a shift cycle parameter.

IPC 8 full level

G06F 13/16 (2006.01); **G06F 9/22** (2006.01); **G11C 7/10** (2006.01); **G11C 7/22** (2006.01)

CPC (source: CN EP KR US)

G06F 9/223 (2013.01 - KR); **G06F 13/1689** (2013.01 - KR); **G11C 7/1015** (2013.01 - US); **G11C 7/1057** (2013.01 - US); **G11C 7/106** (2013.01 - CN); **G11C 7/1066** (2013.01 - EP); **G11C 7/1069** (2013.01 - US); **G11C 7/1084** (2013.01 - US); **G11C 7/1087** (2013.01 - CN US); **G11C 7/109** (2013.01 - EP); **G11C 7/1093** (2013.01 - EP US); **G11C 7/1096** (2013.01 - US); **G11C 7/222** (2013.01 - EP US); **G11C 7/225** (2013.01 - CN EP); **G11C 8/10** (2013.01 - US); **G11C 8/18** (2013.01 - US); **G11C 11/4076** (2013.01 - US); **G11C 29/023** (2013.01 - US); **G11C 29/028** (2013.01 - US); **G11C 7/1066** (2013.01 - US); **G11C 7/22** (2013.01 - US); **G11C 7/225** (2013.01 - US); **G11C 29/024** (2013.01 - US); **G11C 2207/2254** (2013.01 - EP US); **G11C 2207/2272** (2013.01 - EP US)

Citation (search report)

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- [XI] US 2010052739 A1 20100304 - SHIBATA TOMOYUKI [JP]
- [A] US 2002027451 A1 20020307 - SHINOZAKI NAOHARU [JP]
- [A] US 2011161732 A1 20110630 - PARK JUNG-HOON [KR]
- See references of WO 2017189127A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

US 10290336 B2 20190514; **US 2017309323 A1 20171026**; CN 109074332 A 20181221; CN 109074332 B 20211022; CN 113903375 A 20220107; EP 3449377 A1 20190306; EP 3449377 A4 20191218; EP 3449377 B1 20220119; EP 4006904 A1 20220601; KR 102213900 B1 20210209; KR 102367967 B1 20220225; KR 20180129969 A 20181205; KR 20210016085 A 20210210; US 10755758 B2 20200825; US 2017309320 A1 20171026; US 2018358064 A1 20181213; US 9865317 B2 20180109; WO 2017189127 A1 20171102

DOCDB simple family (application)

US 201715595056 A 20170515; CN 201780026103 A 20170322; CN 202111203014 A 20170322; EP 17790055 A 20170322; EP 22151223 A 20170322; KR 20187034049 A 20170322; KR 20217003383 A 20170322; US 201615139102 A 20160426; US 2017023594 W 20170322; US 201816107909 A 20180821